



**ST. MARY'S UNIVERSITY  
SCHOOL OF GRADUATE STUDIES**

**ASSESSMENET ON THE IMPLEMENTATION OF KAIZEN  
AT SIN0-ETHIOP ASSOCIATES (AFRICA) PLC**

**BY: TAMRAT TATEK FANTAYE**

**ID No. SGS7/0300/2006B**

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**ADDIS ABABA, ETHIOPIA**

**JUNE, 2016**

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**A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY, SCHOOL  
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## DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of my advisor, Tilaye Kassahun (PhD). All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

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June, 2016**

## **ENDORSEMENT**

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my approval as a university advisor.

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**Advisor**

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## ABSTRACT

*Kaizen, a continuous improvement, has its own principles, techniques and procedures which will help organizations produce quality products and services to meet customers' expectations. Furthermore, Kaizen symbolizes the mobilization of the work force, providing the main channel for employees to contribute to their company's development. The objective of this research was to assess the implementation of kaizen at Sino-Ethiop Associates (Africa) PLC. For this research, the researcher employed descriptive research type, so as to have a clear picture of the phenomenon on which the researcher wish to collect data. Both questionnaires and structured interview were used to obtain data from the respondents. The sample size has been determined using Yemane Taro who provides a simplified formula to calculate sample sizes. According to the findings some achievements secured by the company in implementing kaizen principles in short period of time is commendable. Whereas most of the problems revolves around the awareness creation and attitude change of some staff members and senior managers of the company. Failure to maintain motivational incentives is also another problem. Accordingly, the researcher has put forward recommendations based on the findings including designing a training and development program which goes in line with the current development in kaizen system and quality management so as to boost the morality of its existing and new entry staff of the company.*

**Key words:** Kaizen, Challenges, Improvement, Strategy



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## CHAPTER ONE

### INTRODCUTION

#### 1.1 Background of the Study

For industries to remain competitive and retain market share in this global market, continuous improvement of manufacturing system processes has become necessary (J. Singh and H. Singh, 2009). Moreover, business organizations, in order to exist in business, are induced to exert relentless efforts to catch up with the ever changing environment.

Kaizen, a continuous improvement, has its own principles, techniques and procedures which will help organizations produce quality products and services to meet customers' expectations. Kaizen is a word, which came from Japan and becomes common in many western companies.



Source: Thessaloniki, 2006

According to Dominican University of California - International Journal of Business and Commerce (April, 2014), a number of manufacturing industries in Ethiopia currently are

not using methods that will achieve high productivity and excellent quality standards to make them more competitive in the globalized international market. Most of the initiatives taken for quality and productivity improvement are through top-down approaches without the best management skills. Many manufacturing companies are plagued by such problems as high quality rejects, high inventories, long lead time of production, high costs of production and inability to cope with customer orders.

Assayehegn (2013) further argues that, the Ethiopian manufacturers are currently at a drawback about getting human capital and asset. As the manufacturing sector contributing less than 5% to the Gross Domestic Product (GDP) due to lack of highly skilled human resources, they are applying different managerial tools within a single organization, which in turn, highlight a technological gap.

Sino-Ethiop Associates (Africa) PLC, in its effort to achieve a competitive market and customers' satisfaction, has introduced and implemented kaizen principles and techniques.

Sino-Ethiop Associate (Africa) PLC was established in March 2001 with a partnership of two Chinese Companies (China Associate Group & Dandong JINWAN Group) and an Ethiopian Company, ZAF Pharmaceuticals PLC to manufacture EMPTY HARD GELATIN CAPSULES (EHGCS) and supply to Pharmaceutical factories in Africa and the Middle East countries.

Objective of the company is to manufacture quality products at affordable prices and supply these products to the various domestic and foreign markets; its objective also includes penetrating and establishing brand products in Africa and in the Middle East markets. With the realization of Ethiopian health policy and strategy to efficient and effective health system; the company plays a major role in existing health care system and contributes to the overall socio-economic development effort of the Government of Ethiopia.

The factory consists of three separate building units, administration building, canteens & guest house unit and the main production/laboratory and warehouse unit. The main production and laboratory building is constructed of easily washable building materials and finished to the required clean room standards in accordance with international GMP

requirements. All process equipment and most utility systems are situated within this building. There are also, within these buildings, situated separate stores for incoming materials and finished products.

Driven by its customers' distinct experience and focus on market success, Sino-Ethiopia (Associate Africa) PLC delivers high-quality EHGCS for both the pharmaceutical and health & nutrition markets.

Sino-Ethiopia Associates PLC has benefited from kaizen implementation in the area of quality and productivity. Staff of the company have been trained in kaizen management and internalize the system as a result of which the company's production is increasing from time to time and help them meet customers' expectations.

## **1.2 Statement of the Problem**

Increased competition calls for business organizations to devise ways of improving their competitiveness in the ever changing global market. Low level of productivity, poor performance, wastage and inadequate customer satisfaction are the main problems need to be addressed in most of the manufacturing businesses in the country. One of the mechanisms, that those organizations can bring about change in their competitiveness is by improving effectiveness of their systems using the principles of Kaizen which was originated in Japan in the 11190s.

According to the strategic documents of Addis Ababa Technical and Vocational Education & Training Agency (2012), Ethiopia is among the poorest countries in the world. Some 31 millions of Ethiopians live below the defined poverty line of 45 US cents per day, and still some more million people are at risk of starvation each year. Although encouraging achievements in improving basic aspects of life were recorded in the recent years, human development indicators still remain at very low levels compared with the rest of the world.

Ethiopia's population is growing by around 2 million people annually, putting tremendous strains on the country's resource base, on its ability to deliver services, and its labor market. Growth and Transformation Plan (GTP), Ethiopia's current poverty reduction

strategy paper, estimates that the country has to raise its average economic growth rate by 11% annually in order to achieve the Millennium Development Goals, (Addis Ababa City Administration TVET Agency, 2012).

The contribution of Industry in Ethiopia, particularly manufacturing, to the overall national income of the country is one of the lowest in the world. Moreover throughout the decade its share remained, in anything stagnant or declining. Thus the manufacturing sector in Ethiopia is the least developed, even by African standard. Past annual reports shown that productivities in manufacturing have been declining since the early 1990s. (W. Asmare, March, 2013).

On the other hand, there are also a number of challenges and problems facing urgent implementation of the Kaizen program, for instance lack of highly skilled human resources, differentiated managerial tools, a technological and capacity (institutional, system, capability) gaps, organizational culture, employee motivation and commitment and so forth.

The other challenges are different levels of understanding among the workers of the implementing organization and some workers consider kaizen as a separate and independent task other than the regular one which arises due to lack of awareness.

Hence, this study assessed the implementation of Kaizen and its achievement, as well as its sustainability in SEAA.

### **1.3 Basic Research Questions**

This study intends to seek answers for the following basic questions:

1. What are the driving factors instigated Sino-Ethiop Associate, Africa PLC (SEAA) to implement Kaizen?
2. How SEAA has been successful in using and integrating the kaizen system into its operations and processes?
3. To what extent does the implementation of kaizen influence staff motivation?

4. What are the major achievements achieved by implementing the kaizen principles?
5. What are the challenges that Sino Ethiop Associates (Africa) PLC encountered while implementing the kaizen system?

#### **1.4 Research Objectives**

General Objective:

The General Objective of this study is to assess Kaizen program achievements through the implementation of Kaizen principles and practices at Sino-Ethiop Associate (Africa) PLC.

Specific Objectives:

- Assess the effectiveness of kaizen implementation.
- Evaluate the whole process of implementing kaizen.
- Pinpoint the gap between the concepts and the actual experience on the ground.
- Summarize the outcomes and results achieved by implementing the kaizen philosophy.
- To suggest recommendations and remedial actions.

#### **1.5 Significance of the Study**

This study is believed to contribute its part to practitioners, students, relevant field of studies. It is further expected that the findings of the study to be conducted for the company under question sheds light on the practices and challenges encountered by other similar manufacturing companies operating in Ethiopia.

The research result helps the stakeholders in the area of manufacturing businesses in identifying similar gaps while implementing Kaizen principles and tools.

By providing training and development to the task force engaged in the day-to-day activities and supplying the necessary facilities and tools, it would suggest appropriate methods for the implementation of the principles and tools in a better way so as to bring about operational excellence in the respective companies intend to introduce and implement the Kaizen principles and tools.

### **1.6 Scope of the Study**

The study is limited to a single manufacturing company engaged in producing EMPTY HARD GELATIN CAPSULES (EHGCS) and supply to Pharmaceutical factories in Africa and the Middle East countries.

In order to deal with the subject critically and deeply, the research to be conducted was limited to Sino-Ethiop Associate (Africa) PLC. Furthermore, as the Kaizen concept and its implementation is not integrated into many manufacturing companies in Ethiopia, the case study is limited to the company under study and the like.

### **1.7 Organization of the Study**

The research is organized in five chapters. The first chapter deals with the study background, problem statement, research questions, research objective, significance and scope/limitations of the study. The second chapter contains the literature review. The third chapter is research methodology: data sources, data collection method and data analysis method. Chapter four deals with results and the final chapter contains summary, conclusions and recommendations. Reference and appendices are included at the end.



## CHAPTER TWO

### REVIEW OF RELATED LITERATURE

*The Kaizen philosophy assumes that our way of life-- be it our working life, our social life, our home life, should focus on constant improvement efforts.... In my opinion, Kaizen has contributed greatly to Japanese competitive success (Imai, 1997, p.1).*

Different literatures about the Kaizen philosophy are written by many authors. Kaizen philosophy is all about achieving improvement through continuous improvement by taking small steps instead of drastic and rigorous changes. Numerous literatures are reviewed and summarized in this chapter.

#### **2.1 Kaizen Philosophy**

*International Symposium Engineering Management and Competitiveness 2011 (EMC2011) June 24-25, 2011, Zrenjanin, Serbia:* has described Kaizen philosophy as follows:

"The foundation of Kaizen was laid down in Japan after the Second World War, when the country was attempting to rebuild factories and rethink many systems. The concept of Kaizen begun to be formed and it took off in the 1190s. According to Masaaki Imai, the father of Kaizen strategy, it is the most important concept of Japanese management - the key of Japanese business success. The Kaizen principle is based on ancient Japanese tradition and philosophy insofar as it seeks harmony through continuous improvement. In its contemporary form, it is used both to improve and streamline corporate processes as well as to gain developments on a personal level". (S. Prosic M. Sc. June, 2011).

In line with the above statement we can infer that, when we take the case of our country (Ethiopia), Kaizen is a management concept introduced very recently and is being implemented mostly by manufacturing businesses, the contribution to the Gross Domestic Product of which is less than 5%, despite the fact that Kaizen is all about improving processes which can be applicable in every sector including service provision, trading, agriculture, financial sector and so forth. The applicability of the concept mainly relies on

the change of the work culture of the work force which involves allowing the employees to participate in generating ideas and decision making processes.

The meaning of improvement in Kaizen should not be seen in isolation, but in a wider context, which is the real meaning of this expression borrowed from the Taoist and Buddhist tradition, focusing on improvement for all the society and bringing betterment for all. This tradition has been kept alive in Japan until today. Kaizen is a philosophy of management as far as it stems from the view that any particular improvement should not be detriment of customer and the wider community. Therefore we should always have this wider context in mind when talking about the specific concept Japanese management which integrates all the components within a dynamic whole and clarifies the underlying importance of social harmony.

The symposium further defined Kaizen as "the distinguishing feature of Japanese management is process oriented, and not uniquely goal oriented way of thinking. As a matter of fact the main difference between Japanese and Western management is in its focus on improvement of all components of production and business process, particularly on such factors as stimulation and involvement of workers and medium ranking managers in the decision making process. The outcome is the process oriented management, with its relevant criteria require long term perspective, result oriented criteria, on the other hand, are focused on short term benefits. Process oriented thinking has been one of the key components of the competitive advantage of Japanese management industry in the world market.

From the above statement, we can infer that process oriented management is preferred to the result oriented as it ensures long-term benefit and sustainability. Consequently, the required result could be achieved in a manner that assures high quality standard and productivity constantly.

## **2.2 Organizational Culture:**

Aside from organization structure, culture has been identified as another important area affecting the kaizen transfer process (Fukuda, 1988; Kono, 1982; Ouchi & Jaeger, 1978; White & Trevor, 1983). Lillrank (19119) indicated that direct transfer of Japanese

innovation practices often fail not because of geographical distance but rather due to the mental distance, i.e. culture, history and strategic paradigms. (Aoki, 2008) also notes that "the implementation of Japanese Kaizen activities in overseas plants is situated in the cultural and social contexts" (Aoki, 2008: 519). Recht & Wilderom, (1998: 11) pointed out that kaizen oriented suggestion systems are oriented on intrinsic value, that is, although in Japan some rewards are provided, these are of symbolic nature. They conclude that the main strategy of Japanese companies which set up green field plants. Another important notion is that for kaizen implementation to be successful it is important that an organizational culture exists where operators can admit their mistakes (Imai, 1986; Ohno, 1988, Wakamatsu, 2007).

The above statement can be summarized as that it is not a matter of geographic location, rather the success of kaizen in other parts of the world depend on the work culture of that country or organization. On the other hand, it is imperative to consider the situation of a particular country in terms work ethics, organizational culture and other working environment.

### **2.3 Kaizen Principles and Tools:**

GRIPS DEVELOPMENT FORUM: (October, 2009) has summarized principles and tools as given below:

The two key features of Kaizen are *incremental and continuous improvement and involvement of the entire workforce in that process*. The workforce, even workers, need to participate in producing small but frequent changes by making suggestions for improvement for process and product. Beyond that the logical structure of the concept of Kaizen, the precise relationship among its tools, and concrete measures and sequences adopted on the factory floor, are difficult to pin down since there are many different schools of teaching that emphasize different aspects and tools of kaizen relative to others. Even among excellent companies, Toyota's way is different from Honda's way and the Panasonic philosophy is quite distinct from Canon's.(I. Ohno, K. Ohno and S. Uesu, October, 2009).

From the above statement, the work culture of the workforce and the motivational efforts being made to the workforce by the employers and supervisors require a lot to do. Suggestions provided by the frontline workers would be crucial to bring about impact on the successful implementation of Kaizen practice among many others employees engaged in the practical process.

According to Massaki Imai, who introduced Kaizen to the international audience with his seminal book, *Kaizen*, The key to Japanese competitive success, Kaizen is an umbrella concept for a large number of business practices. (Imai, 1986, 1997). It could even be argued that, like Zin Buddhism, it is not just a management technique but a philosophy which instructs how a human should conduct his or her life. Kaizen focuses on how the people approach work. It shows how management and workers can change their mindset together to improve their productivity. As Edwards C. Johnson III, CEO of Fidelity Investment, puts it, while there are many strategies for management success, Kaizen is different since it helps focus in a very basic way on how people conduct their work (Imai, 1997).

#### **2.4 Major Concepts of Kaizen:**

Imai (1986) has outlined the following principles and tools of Kaizen management:

Kaizen is a continuous improvement process involving everyone, managers, and workers alike. Broadly defining, kaizen is a strategy to include, concepts, systems and tools within the bigger picture of leadership and people culture, all driven by the customer.

According to Thessaloniki (2006), Kaizen is a Japanese philosophy meant for process improvement that can be traced to the meaning of the Japanese words 'Kai' and 'Zen' which translate roughly into 'to break apart and investigate' and 'to improve upon the existing situation'. The Ethiopian Kaizen Institute defines Kaizen (2012) as the Japanese term for continuous improvement. It is using common sense and is both a rigorous, scientific method using statistical quality control and adaptive framework of organizational values and beliefs that keeps workers and management focused on zero defects. It is a philosophy of never being satisfied with what was accomplished last week or last year.

According to Cheser (April,1994), Kaizen deals with the management of change and is a methodology in the right direction to improve manufacturing operations, on a continual and incremental basis following the right steps like establish a plan to change whatever needs to be improved, carry out changes on a small scale, observe the results, and evaluate the results and the process and determine what has been learned. From the above statement, we can infer that kaizen is not one-off activity that can be done once in a short period of time. It is rather a continuous improvement process that can be compared with the original plan. Furthermore, the plan is also subject to change in line with the current development of new way of operations and carryout changes on a small scale gradually.

Thessaloniki (2006) further explains the 5s, suggestion system and other concepts as follows:

5S: a Philosophy and checklist for good housekeeping to achieve greater order, efficiency and discipline in the work place. It is derived from the Japanese words *Seiri (sort)*, *Seiton (straighten)*, *Seiso (shine)*, *Seiketsu (systematize)* and *Shitsuke (standardize/self-discipline)*.

Suggestion System: A suggestion system is the method by which ideas and suggestions of employees are communicated upwards through the management hierarchy to achieve cost savings or improve product quality, work place efficiency, customer service, or working conditions. Examples range from simply placing suggestion boxes in common areas, to implementing formal programs with committees reviewing ideas and rewards given for successful adoption of those ideas.

Quality Control Circle (QCC): is a small group of workers who collectively find a problem, discuss alternative remedies and propose a solution. QCC voluntarily perform improvement activities within the work place, as part of a company-wide program of mutual education quality control, self development and productivity improvement.

Imai reduced the principles and tools to one word under the umbrella:

## KAIZEN UMBRELLA



Source: Imai (1986, p.4).

Total Quality Management (TQM): represents a number of management practice, philosophies and methods to improve the way an organization does business, makes its products and interacts with its employees and customers. QCC activities function as an integral part of TQM. Historically statistical quality was born in the US and Japan imported and developed that concept as Total Quality Control (TQC) in the 1960-70s which evolved as TQM in the late 80s.

Total Production Systems (TPS): is the philosophy which organizes manufacturing and logistics at Toyota, including interaction with suppliers and customers. It focuses on the elimination of waste and defects at all points of production including input, process and final output (delivery). The term "Lean Production System" can be used interchangeably.

Just-in-time (JIT) system: is a part of process of TPS, a production system aimed at eliminating non-value adding activities of all kinds and achieving a lean production system flexible enough to accommodate fluctuations in customer orders.

Kamban System: refers to a communication tool in the JIT production and inventory control system. A Kamban (signboard) is attached to a given number of products in the production line, instructing the delivery of a given quantity. When the parts have all been used, the kamban is returned to its origin where it becomes an order to produce more.

These principles and tools significantly helped Japanese companies to develop process oriented way of thinking that assures continuous improvement involving people at all levels.

Uncertainty Avoidance (UA): the degree to which people within a culture are made uncomfortable by situation they perceive to be unstructured, unclear and unpredictable.

Autonomous Maintenance (AM) refers to the practice designed to involve operators in maintaining their own equipment. The AM further explained as (1) cleaning of equipment by operators is critical to its performance, (2) operators understand the cause and effect of equipment deterioration, (3) basic cleaning and lubrication of equipment is done by the operators. (4) production leaders, rather than operators, inspect and monitor equipment performance, (5) operators monitor and inspect the performance of their own equipment. (6) operators are able to detect and treat the abnormal operating conditions of their own equipment.

Organizational Culture (OC) is regarded as the specific collection of values and norms that are shared by people & groups in an organization that control the way interact with each other and with stakeholders outside the organization.

## **2.5 Kaizen - The Three Pillars**

According to M. Imai, a guru in these management philosophies and practices, the three pillars of Kaizen are summarized as follows.

*a. Housekeeping*

*b. Waste Elimination*

*c. Standardization*

Imai further states that the management and employees must work together to fulfill the requirements for each category.

**a. Housekeeping**

This is a process of managing the workplace, GEMBA, (workplace), in Japanese, for improvement purposes. Imai introduced the word "Gemba", which means "real place", where value is added to the products or services before passing them to the next process where they are formed.

For proper housekeeping a valuable tool or methodology is used, the 5S methodology. The term "Five S" is derived from the first letters of Japanese words referred to five practices leading to a clean and manageable working area: 1) *Seiri (organization)*, 2) *Seiton (tidiness)*, 3) *Seiso, (purity)*, 4) *Seiketsu (cleanliness)* and 5) *Shitsuke (discipline)*. The English words equivalent to 5S's.

**TABLE 1 The Five Ss**

Seiri	SORT what is not needed. Use the red tag system of tagging items considered not needed, then give everyone a chance to indicate if the items really are needed. Any red tagged item for which no one identifies a need is eliminated (sell to employee, sell to scrap dealer, give away, put into trash).
Seiton	STRAIGHTEN What must be kept. Make things visible. Put tools on peg board and outline the tool so its location can be easily identified. Apply the saying "a place for everything, everything in a place".



Seiso	SCRUB everything that remains. Clean and paint to provide a pleasing appearance.
Seikestu	SPREAD the clean/check routine. When others see the improvements in the Kaizen area, give them the training and the time to improve their work area.
Shitsuke	STANDARDIZATION and self-discipline. Established a cleaning schedule. Use downtime to clean and straighten area.

Source: Kaizen in Africa Literature - GRIPS Development Forum, 2009.

Today it has become essential for any company, engaged in manufacturing business, to practice the 5S 's in order to be recognized as a manufacturer of world-class status.

Companies in Ethiopia implementing Kaizen are making use of the 5S in their operational processes. As it is given on the above table, the 5S can be implemented not only in the manufacturing business but also in any sector of the company with which continuous improvement achieved gradually.

#### **b. Waste Elimination (Muda)**

Muda in Japanese means waste. The resources at each process - people and machines - either add value or do not add value and therefore any non-value adding activity is classified as muda in Japan. Work is a series of value adding activities, from raw materials ending to final product. Muda is a non-value-add task.

**TABLE 2: Waste Elimination (Muda)**

Muda in manufacturing	Muda in office
Shipping defective parts	Passing on work that contains errors
Waiting for inspection	Signature approval-bureaucracy
Walking and transporting parts	Walking or routing documents
Overproduction	Copies, files, a lot of papers
Excess inventory	Excess documentation

Source: International Journal of Business and Commerce, (April, 2014)

In Kaizen philosophy, the aim is to eliminate the seven types of waste (seven deadly wastes) caused by overproduction, waiting, transportation, unnecessary stock, over processing and a defective part.

### **c. Standardization**

Standards are set by management, but they must be able to change when the environment changes. Companies can achieve dramatic improvement as reviewing the standards periodically, collecting and analyzing data on defects and encouraging teams to conduct problem solving activities. Once the standards are in place and being followed then if there are deviations, the workers know that there is a problem. Then employees will review the standards and either correct the deviation or advise management on changing and improving the standard.

It is a never ending process and better explained and presented by the PDCA cycle (plan-do-check-act), known as Deming Cycle.



Source: The PDCA cycle, Thessaloniki (2006, p14), (Imai, 1986, p61)

## 2.6 Kaizen Implementation/Practice in Ethiopia

According to Japan International Cooperation Agency (JICA) first Kaizen project in Sub-Saharan Africa began in Ethiopia at the request of the late Prime Minister Meles Zenawi. He is the one who took the initiative to bring Kaizen to Ethiopia. (JICA, 2013).

With the promise of the Japanese government to cooperate in the reinvigoration of Arica's economic growth. At the fourth Tokyo International Conference for African Development (TICAD IV) also known as the Yokohama Action Plan, in May, 2008. Considering the country's GDP, "Ethiopia demonstrated no hesitation and embarked to take advantage of the Japanese offer help to Ethiopia across its industries". The offer could accelerate and improve the quality and productivity of Ethiopian manufacturing enterprises. (A. Desta 2009).

On November 4, 2009, seminar was given for about 300 participants in collaboration with Japan government and Ethiopian Ministry of Trade. Consequently, both governments agreed to conduct a development study on quality and productivity improvement (Kaizen) in Ethiopia.

The Japan International Cooperation Agency (JICA) and Ministry of Trade and Industry (MOTI) in Ethiopia are responsible for setting up Kaizen Institute in Ethiopia and conduct

survey on the implementation of Kaizen pilot project, and then selection and training of pilot project companies (JICA, 2009; Ethiopian Kaizen Institute, 2013). \

The Kaizen project in Ethiopia has been implemented in two phases: The first phase was from October, 2009 to June, 2011. The second phase was from November, 2011 to October, 2012 and responsible to spread Kaizen to more enterprises all over Ethiopia, including small and micro enterprises and build capacity at EKI, (JICA, 2013).

Nowadays, Kaizen has been implemented across different industries and manufacturing sectors successfully in Ethiopia, as a result significant achievements attained through the implementation the kaizen concept. (*Ethiopian Kaizen Institute, 2012*)

## **2.7 Driving Factors for Kaizen Implementation**

Currently business organizations are forced to stay in the competitive global market, for this reason, it is essentially necessary to adapt to various changes, Kaizen is one of the most important methodologies used in the companies, with the goal of reducing the times of processes and increases the economic benefits among others.

(<https://www.researchgate.net/publication>)

## **2.8 Challenges Encountered While Implementing Kaizen in Ethiopia**

Authoritative power is concentrated in the hands of top managers and awareness creation among the management and employees took much time. On the other hand, workers' motivation to improvement and change in the organizations were very limited. Experience of Kaizen in Ethiopia: (D. Kitaw, October, 2011).

From the above statement, we can infer that currently the leadership in Ethiopia has recognized that there is a need for attitude change in working culture of workers of various establishments operating in the manufacturing industries.

"Although, a number of ongoing reviews conducted, comprehensive and systematic study was not conducted regarding Kaizen program implementation. Particularly, the implementation process, success stories, challenges, employees' work attitude have not been systematically documented in a way to benchmark best practices, knowledge sharing,

promote learning curve, and obtain operational knowledge about Kaizen program implementation". (M. Tadesse, 2014).

In line with the above statement, there is a need to conduct further studies on the implementation of Kaizen in the country and provide tools and mechanisms to make kaizen practices sustainable and continuous so that the work culture of the taskforce would be changed through time and the required achievements will be materialized.

## **2.9 Empirical Review**

Empirical review is a research using empirical evidence. It is a way of gaining knowledge by means of direct and indirect observation or experience. The objectives of empirical review are to demonstrate good general knowledge of the chosen area of study and demonstrate comprehensive knowledge of a specific topic and/or issue.

*Literature related to the topic under study is given below:*

**2.9.1** A. Belayneh (June, 2014) had conducted a research on the practice, success and challenges in the application of kaizen in Addis Ababa City Government TVET Colleges in June, 2014. The researcher forwarded findings and conclusions in response to the research questions of the extent to which the kaizen system has been implemented in the TVET colleges. The major challenges that have been observed during the implementation process and the measures taken to alleviate the challenges along with the sustainability of the system. Absence of performance based reward and recognition system contributed much to the low level of employees motivation. Furthermore, the theory of kaizen and the practical implementation are correlated negatively in that the actual practice of kaizen is incongruent with the theory.

The following points were outlined as the major problems faced by the organization during the implementation of the new philosophy, kaizen:

Some of the most common problems facing traditionally managed organizations are: high defect rates, excessive inspection costs, lack of communication, dissatisfied trainers and

customers, all leading to high levels of operating costs. These problems are partly to be avoided up on the implementation of improved management philosophy, like Kaizen.

However, it is also true that some basic conditions such as motivated trainers, some level of skill for them to be able to understand trainings and team discussions, top management commitment (dean and vice deputies), good trainer - management relationship, etc are quite essential. Thus such issues should be assessed in advance. As trainers' commitment is a critical point for the success of kaizen implementation, the level of trainer's satisfaction and their commitment to the colleges need to be evaluated prior to the introduction of Kaizen. More than half of the trainers are age ranges between 20-30, which indicates that almost half of the trainers are young which reveals that the experienced trainers leave the college significantly. In accordance with the participants response, the employees job satisfaction is at a lower level.

As given above by the researcher, traditional colleges do not attach great importance to training and the level of trainers' skill and knowledge is likely to be low.

To this end, the researcher has suggested the following solutions and recommendations towards mitigating the problems outlined above:

- Trainers' supervision during implementation of kaizen shall be continuous and sustainable. In this regard, college academic staff should be equipped with the necessary skills and training and be assigned as supervisors for the proper implementation of kaizen in the college.
- With all the challenges identified by the respondents, it seems difficult to obtain the right person who has the required knowledge and skill on kaizen's concept and practical application respectively. As an option for addressing the gaps in implementation, basic training on concept of kaizen, ways of application and method of supervision should be given for supervisors' working currently.
- According to Imai (1986), kaizen management philosophies and practices consist of three pillars of kaizen: these are: housekeeping/5Ss, waste elimination & standardization. As he stated, the management and employees must work together

to fulfill the requirements for each category. To ensure success on activities on those three pillars, three factors should be taken into account.

- As shown in the findings, the absence of reward and recognition to kaizen implementers was mentioned as one of the constraints to make kaizen sustainable. To alleviate these problems, the college deans have to devise different types of reward and recognition strategies to motivate the employees through provision of certificates, material rewards and promotion through the existing career structure.
- What a dean raise, to implement kaizen in standardized and sustainable ways, the trainers always wait for the top management to give directions. This implies that there are problems on the training provision, absence of scientific work procedures, lack of problem solving approach and lack of good working environment in the college. Thus, TVET Agency intends to modify the guidelines of the kaizen implementation procedure along with workable performance evaluation methods. In addition, trainers should understand kaizen and its role for better change in the working environment and identify problems based on bottom-up approach and decision should be made by the implementers themselves rather than the supervisor himself.
- Conceptually, the main importance of kaizen implementation reveals that waste can be reduced through different techniques i.e. excess inventory, waiting time, defect-making and unnecessary motion in the workshop. Wastes are one of the causes for low level of productivity. Thus, an application of waste reduction method in the learning departments can be benefited from the system.
- Kaizen implementers should be assessed objectively by the skilled supervisors' sustainable monitoring and evaluation and feedback system, the communication system should be improved and thereby technology transfer enhanced.
- The study shows that to make kaizen system sustainable in the higher learning institutions, some sort of responsibility shall be given to vice deans to manage, direct and measure the on-going process of the tasks during kaizen implementation

and dissemination of innovative technology to the SMEs and to the respective colleges as well as other than forwarded routine activities.

In general, the researcher has identified some gaps that lies between the theoretical aspect of kaizen and its actual implementation in the college. The major problems revolves around lack of commitment of the management in implementing and facilitating the kaizen principles and practices as a consequence of which the college failed to ensure sustainability of kaizen in the college. Hence, the recommendations called for the management to devise strategies that address the training and development on kaizen implementation, reduction of wastes, and develop a performance based recognition and reward system.

**2.9.2** Pan Chi Anh, Zeng Zing, Yoshiki Matsui in their studies on "Transferability of Kaizen Practices" implementation of Kaizen associates with low power distance, female, low uncertainty avoidance and collectivism aspects. This finding further suggests that Kaizen practices can be transferrable to non-Japan cultural environment.

The biggest barrier to Kaizen success is the centralization of authority and lack of cross-functional cooperation. In order to increase the chances for successful Kaizen adoption, two aspects of organizational culture are required: power delegation and empowerment, and high cooperation between managers, workers, customers and suppliers.

The great influence of the national culture and organizational culture on Kaizen practices indicate that there is not a universal model for successful Kaizen transformation. Kaizen practices should be adopted to the local culture, in order to have the highest probability of success.

**2.9.3** Two researchers, namely Adam Paul Brunet and Steve New from Said Business School, Oxford, UK, conducted a research on Kaizen practice at Nippon Steel Corporation (NSC). NSC is a Japanese steel industry has been at the forefront of technical and social



innovation in Japan, providing technically innovative raw materials for onward manufacturing (Morris-Suzuki, 1994).

The researchers presented their findings as summarized below:

After discussing the general understanding of Kaizen and proposing a clear definition, the researchers listed findings.

NSC has established targets for its work teams and expected the team members to use Kaizen to achieve these targets whether individually or in groups. The company had in-place a long term motivational package to encourage the employees to contribute.

The implementation of Kaizen bring about change on the attitude of the workers in that the team enabled to be responsible for their output rather than just deal with ad-hoc quality issues and borne out by the broad spectrum of kaizen style activities performed in NSC.

It is significant that the names of the activities always differentiated them from being purely quality oriented, starting with "zero defects" which changed to "CD - Creation and Development activities" in 1971 and later to the common name for such activities in Japan Steel Industry, "JK- Jishu Kanri" or "self management" activities in 1986.

A seniority-based wage system provided greater rewards to long-serving employees.

Significant bonuses were based on the company and team performance.

We can take from this that the kaizen practice evolves over time and reflects the changing environmental conditions. Finally, the researchers, based on the findings recommend that there is a need for more extensive and careful descriptions of what management practices mean for the participants, and for the need to take into account economic and cultural setting. Furthermore, the researchers recommends that to understand the motivational calculus of all the participants in the system and to appreciate the considerable time and effort required to make kaizen work within an organization.

## **2.10 Conceptual Framework**

The conceptual framework that could be developed to study the success of Kaizen overseas transferability and implementation of the kaizen practices in Ethiopia depend on the degree of compatibility between the Japanese company's Kaizen culture and the host country's national culture. As articulated by Anh, et a., (2011) though not a universal model for successful kaizen transferability to other countries, Kaizen practices should be adopted.

### **a. HOUSEKEEPING**

This is a process of managing the workplace, GEMBA, (workplace), in Japanese, for improvement purposes. Imai introduced the word "Gemba", which means "real place", where value is added to the products or services before passing them to the next process where they are formed.

For proper housekeeping a valuable tool or methodology is used, the 5S methodology. The term "Five S" is derived from the first letters of Japanese words referred to five practices leading to a clean and manageable working area: 1) *Seiri (organization)*, 2) *Seiton (tidiness)*, 3) *Seiso, (purity)*, 4) *Seiketsu (cleanliness)* and 5) *Shitsuke (discipline)*. The English words equivalent to 5S's.

### **b. Waste Elimination (MUDA)**

Muda in Japanese means waste. The resources at each process - people and machines - either add value or do not add value and therefore any non-value adding activity is classified as muda in Japan. Work is a series of value adding activities, from raw materials ending to final product. Muda is a non-value-add task.

### **c. Standardization**

Standards are set by management, but they must be able to change when the environment changes. Companies can achieve dramatic improvement as reviewing the standards periodically, collecting and analyzing data on defects and encouraging teams to conduct problem solving activities. Once the standards are in place and being followed then if there are deviations, the workers know that there is a problem. Then employees will review the

standards and either correct the deviation or advise management on changing and improving the standard.

## **CHAPTER THREE**

### **RESEARCH DESIGN AND METHODOLOGY**

#### **3.1 Research Design**

The research design would help a researcher to answer the basic research questions. According to Saunders, Lewis and Thornhill (2009), the choice of the research design depends on the objectives of the study, the available data sources, cost of obtaining the data and the availability of time.

A research design, which is descriptive survey type employed for this research. The purpose of descriptive research is to portray an accurate profile of persons, events and situations. It is also necessary to have a clear picture of the phenomena on which the researcher wish to collect data.

In this section, data collection methods and data analysis has been used to gather and analyze the practices and challenges of Kaizen implementation in Sino Ethiop Associate PLC. In order to collect data from the PLC, structured interviews had been conducted as well as questionnaires were used.

The aim of this study is to assess the practices and challenges encountered in the company while implementing Kaizen principles and tools.

In order to achieve the purpose captioned above, the researcher has used convenience and stratified random sampling for managerial and non-managerial respondents respectively.

#### **3.2 Instruments of Data Collection/Source:**

The choice of method of data collection is largely dependent on the purpose of collecting data, the availability of the data being collected and the skills the researcher acquired by the time when the research is conducted.

Accordingly, the data for this study had been collected from primary and secondary sources including the respondents selected from the company under study. The secondary data has been gathered from reports, minutes, bulletins and working papers of SEAA.

Furthermore, the main instrument used while gathering data from the staff and management were questionnaire and interview, respectively along with basic document review and analysis.

### **Questionnaire:**

The questionnaire, self developed, had been used as a main data collection tool. The first part of which consists of the factors that helped to find out the demographic background of the respondents. The second one has assessed knowledge and experience about Kaizen management and the last one, open-ended interview is used to acquire what impact and challenges have been encountered by the organization while implementing the Kaizen management.

### **3.3 Population, Sample Size and Sampling Technique:**

#### **3.3.1 Population**

The primary function of sampling strategy is to identify the target population of the study which enables to determine the sample size.

The target population of this study is the staff and management of Sino-Ethiopia (Associate Africa) PLC (SEAA).

SEAA has a governing board, an executive director and a factory director and the following operational departments:

- Production Department
- Quality control Department
- Quality Assurance Department
- Engineering & maintenance Department

- Administration & Finance Department
- Commercial Department

The company has currently 170 permanent workers performing in various capacities under the various departments as captioned above.

### 3.3.2 Sample Size and Sampling Technique

#### *Sample Size*

A sample size was taken from the target population being researched. If the sample is adequate it will have the same characteristics of the population. (Zikmund, 2003) and the findings are usually used to make conclusions about the population. (Field, 2009).

The sample size determination using Yemane Taro who provides a simplified formula to calculate sample sizes (Yemane, Taro. 1967).

Where n is the sample size, N is the population size, and e is the level of precision.

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{170}{1 + 170(0.05)^2}$$

$$n = 119$$

As shown above, the sample size of respondents will be 119, based on the Yemane Taro sampling procedure, which gives a 119% confidence, with the level of 5% precision.

### ***Sampling Technique***

Stratified sampling method was primarily used to draw respondents from the population. In a population constituted by product unit, stratified sampling method is applicable to obtain representative sample (Kothari, 1985). The researcher intentionally stratified the population into five functional departments. Then using method of proportional allocation, size of the total sample 119 was determined to be representative of the population and then the proportional sample for each production unit has been determined.

The second stage and final sample respondents were chosen randomly based on their convenient accessibility, as the factory building is located in the outskirts of Addis Ababa.

## **3.4 Procedures of Data Collection**

### **3.4.1 Structured Questionnaire**

Self-administered and structured questionnaire which is in line with the basic research questions and objectives have been developed and disseminated to the respondents (staff of the company) below the management level. Completed questionnaires had been collected, analyzed and summarized.

### **3.4.2 Structured Interview**

The interview survey was scheduled ahead of time in consultation with the selected few management members. The interview had been conducted to the respondents at the senior management level and the data has been summarized and interpreted in chapter four.

### **3.5 Methods of Data Analysis:**

After the data collection from respondents, the researcher has checked and verified the completeness of the questions outlined in the questionnaire and interview questions. Then the results have been analyzed using frequency and percentage to interpret demographic and quantitative data.

Quantitative data collected using questionnaire had been computed with Microsoft Excel program to minimize errors that may occur during manual computation. The data questioners were described in tabulation methods using numbers and percentiles.

Information gathered using interview guideline has been explained with paragraphs and tried to support or disprove an idea with the other corresponding idea.

### **3.6 Ethical Considerations**

The data had been gathered from the respondents after securing consent from the respondents and upon informing them ahead of time and of the nature and purpose of the research. Furthermore, the data gathered in any form is used only for the research purpose and the confidentiality of the information is given due care in order not to affect their respective personal privacy.

The information provided by the respondents was kept confidential and used for the academic purposes only. The researcher has secured approval and obtained written official letter from St. Mary's University and the same is issued to Sino-Ethiop (Associate Africa) PLC.



## CHAPTER FOUR

### DATA ANALYSIS AND PRESENTATION

This chapter deals with the analysis, interpretation and presentation of data collected from respondents in the form of questionnaire and interview conducted. The questionnaires are interpreted into Amharic so as to facilitate effective understanding of the issues by respondents. Furthermore, major findings and conclusions are presented.

**TABLE 3: Background Data**

Personal Information		Response	
		Frequency	Percent
Gender	Male	23	29
	Female	57	71
Age	<25	47	59
	25-35	27	34
	36-40	4	5
	41-60	2	3
	> 60	0	0
Educational level	<Diploma	48	60
	Diploma	25	31
	First degree	7	9
	Above first degree	0	0
Service Year in Sino Ethiop	< 5 years	63	79
	6-10 years	9	11
	11-15 years	8	10
	>15 years	0	0

Personal information of the participants who took part in completion of the questionnaires is summarized below:

From among the 119 selected participants only 84 staff have responded to the questionnaires and 4 of them were found to be invalid and left out from the data analysis process. Hence only 80 responses were considered as valid and be used to make further analysis and presentation.

With regard to the age category, most of the staff are below the age of 25 which is (59%) and only 2 (3%) are between 41-60.

As given on the table above, from among the sampled participants in this research, 23 (29%) are male and 57 (71%) are female. As the company was established very recently, the service year of the majority of the staff, 63 (79%) is less than 5 years of experience. Considering the educational level: most of the production workers, 48 (60%) are below diploma level whereas 7 of them (9%) hold a BA degree and the rest have diploma 25 (31%).

**TABLE 4: Summary of Questionnaires Distributed, Returned and Discarded**

<b>Questionnaire For Employees</b>	<b>Frequency</b>	<b>Percent</b>
Total distributed	119	100
Returned	85	89
Discarded	5	5
For Managers & Supervisors		
Total distributed	5	100
Returned	5	100
Discarded	0	0

From among 119 sampled respondents only 85 have returned the completed questionnaires, whereas 5 responses discarded as it is found to be incomplete, whereas the open ended questionnaires are completed and returned.

**TABLE 5: Conducive Environment for Successful Implementation of Kaizen**

S / N	Statement	Excellent		Very Good		Good		Poor		Very Poor		Total
		Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	
1	My supervisor has adequate knowledge about Kaizen and communicate to the staff in a good manner.	42	53	29	36	9	11	0	0	0	0	80
2	Kaizen provided opportunity for the staff to take part in the decision making process.	34	43	29	36	17	21	0	0	0	0	80
3	All the necessary equipments are available to do my job effectively.	33	41	34	43	13	16	0	0	0	0	80
4	The type of organizational structure is favorable to effectively implement Kaizen.	55	69	19	24	5	6.3	1	1.3	0	0	80
	Average		51		35		14		0.3		0	

The points mentioned in the above table are connected with the question which seeks to find out how the organization is successful in using and integrating the kaizen system into its operations. 53% of the respondents agree that their supervisors have adequate knowledge about kaizen, 36% have graded the knowledge of their supervisors as very

good and the rest have labeled as good. For the issue of staff participation on decision making process, about 79% (43+36) have graded as excellent and very good.

Overall the majority of the respondents in this section find it that there is conducive environment which supports the implementation of Kaizen system. The management and supervisors' response during the interview is also in line with the above summary.

**TABLE 6: Using and Integrating Kaizen**

S / N	Statement	Excellent		Very Good		Good		Poor		Very Poor		Total
		Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	
1	The organization has clearly articulated the Kaizen principles.	54	68	19	24	6	7.5	1	1.3	0	0	80
2	I understand that continuous improvement bring about gradual change in the way we operate as a team.	31	39	45	56	4	5	0	0	0	0	80
3	Kaizen has contributed much for the overall organizational work culture improvement.	50	63	20	25	10	13	0	0	0	0	80
	Average		57		35		8.3		0.4		0	

As can be seen on the above table, the majority of respondents (57 and 35 %), when combined 92% of the sampled respondents strongly agree and have positive attitude towards the effectiveness of using and integrating Kaizen in Sino Ethiop Associates (Africa) PLC and it demonstrates that the staff have been well informed of Kaizen principles and its application. This is further fortified by the interviewed management

members in that the workers are motivated as a result of which the production is increased and quality is also improved.

**TABLE 7: Staff Motivation**

S / N	Statement	Excellent		Very Good		Good		Poor		Very Poor		Total
		Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	
1	The staff members in your department are motivated enough to implement Kaizen.	40	50	31	39	8	10	1	1.3	0	0	80
2	I am actively and effectively participating in the implementation of the Kaizen philosophy.	53	66	24	30	3	3.8	0	0	0	0	80
3	I am eager to learn a lesson from my mistakes and ready for corrective actions.	60	75	16	20	4	5	0	0	0	0	80
4	I am interested to discuss with my immediate supervisor on how to utilize Kaizen principles and improve overall productivity.	61	76	14	18	5	6.3	0	0	0	0	80
	Average		67		27		6.3		0.3		0	

Staff motivation is the crucial part in the implementation of the new system. In this regard the table above deals with staff motivation while implementing kaizen principles in SEAA in that the sampled respondents have expressed their opinion in that staff members are highly motivated and inspired by Kaizen philosophy. When the first two rates combined together will give us 94% (67 + 27%) and it indicates that the company is successful in inculcating the principles in the minds of the workers. As a result of which level of productivity is increased and quality is improved from time to time. This also contributes

much towards work culture change in the work environment and unnecessary wastes are removed.

**TABLE 8: Impacts Achieved**

S / N	Statement	Excellent		Very Good		Good		Poor		Very Poor		Total
		Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	
1	Kaizen has brought about new change in work culture.	63	79	17	21	0	0	0	0	0	0	80
2	Our production process has been improved as a result of Kaizen implementation.	56	70	21	26	2	2.5	1	1.5	0	0	80
3	Kaizen has contributed much on the less time being used for processes.	44	55	30	38	6	7	0	0	0	0	80
4	The production area is pleasant and tidy as a result of kaizen implementation.	49	61	29	36	2	3	0	0	0	0	80
5	Staff skill and knowledge has been increased as a result of implementing Kaizen principles.	33	41	36	45	9	11	2	3	0	0	80
	Average		61		33		4.8		0.8		0	

The above result shows that the majority of respondents (61% & 33%, 94 % in total) agree that Kaizen implementation in the organization is achieved successfully, especially it brought about a new work culture in the company wide, whereas few respondents do not agree that it is achieved as expected.

In this regard, the interviewed management and supervisors have also given their consent in that Kaizen implementation in the company find it effective and efficient and hence started to apply for second round consideration and competition by Ethiopian Kaizen Institute.

**TABLE 9: Employees' Knowledge of Kaizen before the Implementation**

S / N	Statement	Excellent		Very Good		Good		Poor		Very Poor		Total
		Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	
1	Your knowledge about Kaizen principles prior to implementation in the company.	0	0	0	0	18	23	26	33	36	45	80
	Average		0		0		23		33		45	100

The respondents have been asked about this question in order compare with the knowledge gained after the implementation of the kaizen system in the organization.

As it can be seen on the above table, 23% of the respondents have little knowledge about kaizen prior to the integration of the principle into the operational system of the company. Whereas (33 and 45%) combined 78% of the respondents know nothing about the kaizen system.

**TABLE 10: Challenges**

S / N	Statement	Excellent		Very Good		Good		Poor		Very Poor		Total
		Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	
1	Your company work regularly towards avoiding wastes.	10	13	12	15	11	14	21	26	26	33	80
2	The kaizen system is sustainably implemented.	8	10	10	13	23	29	20	25	19	24	80
	Average		11		14		22		25		28	

In this section under challenges, most of the respondents agree that avoiding waste on a regular basis is becoming a challenge. As can be seen from the above table, the majority of respondents which is 26% and 33% have expressed poor and very poor respectively. On the other hand sustainability of kaizen system is not secured which is largely dependent of the motivation of staff members. As indicated on the above table the respondents expressed their doubt about sustainability of the kaizen implementation for the future in that 22% of respondents agree that it is good, whereas 25% & 28% of respondents said that it poor and very poor respectively.

#### **4.1 Summary of Data Collected using Interview Guide:**

Interview questions were developed for the management and supervisors in order to identify the challenges encountered, what was the driving force that encouraged the company to introduce Kaizen into its operational system. Furthermore what mechanism is in place to ensure sustainability of the kaizen processes.



For question on what impact did you observe in the first two years implementation, the responses were:

- Employees work culture is changed and motivated to work more with the best quality.
- Productivity and quality of products are remarkably increased.
- Better improvement of production is observed
- Sales of production has been increased.
- Workers moral was raised
- We observe the best our firms' employees performance
- All materials set in proper place
- Work team spirit is improved

In response to the challenges that the company has encountered the following responses were given by the respondents:

Changing the attitude of some workers and senior management was not easy.

- Few of the workforce was performing below expectation due to the fact that they are not rewarded and recognized.
- Rewards and prizes were not given timely, as a result motivation of some team members was not as expected.
- Different levels understanding among the group and workers caused challenges.
- Inability to track record of what has been done by the team.
- Some of the workers perceived kaizen as additional task for them and discouraged to work effectively.
- We faced challenges of sustainability in the first phase.

With regard to input and support obtained from EKI, it was stated that:

- Various trainings on kaizen principles and the follow-up and monitoring activities were helpful.
- Good follow up was not interrupted by the institute.
- EKI has given training to the workers and follow up was commendable based on the their schedule.
- EKI has trained the workers intensively about the meaning and use of kaizen implementation into the firm.
- The institute has also followed up each and every steps of our move in order to support us effectively and efficiently.

For questions raised in connection with sustainability of the kaizen implementation in the organization, the following responses were forwarded by the respondents:

- The company is implementing a new piece rate payment system and reward scheme to encourage workers for continuous performance. There is continuous monitoring follow up by the management.
- We still use the theory as a day-to-day working principles of the firm, because what we have got from kaizen implementation does not allow us to abandon the theory from implementing into the firm.

In response to the question which asks, what would you suggest to make Kaizen principles and practices remain sustainable in your firm, the following responses given below:

- In my opinion, if there is a strong commitment of senior management and if the reward systems are in place, kaizen will sustain in firms like ours.

- The company is now want to implement the second phase. Application has been submitted to Ethiopian Kaizen Institute.
- We believe that the theory did not have any damage to our firm. Its implementation would improve the firm's performance, so there is no reason to quit kaizen implementation in the firm.

As can be seen above, most of the respondents of the management and supervisors have strongly agreed that the kaizen implementation in the company is commendable and the management team believe that the workers are motivated and do their work to the expectation of the firm. With regard to its sustainability, some respondents suggested that the senior management should work hard on the staff motivation perspective and make a favorable work conditions in the firm so that we would be in a better position to maintain productivity level and sustainable kaizen implementation in the firm.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

The final chapter summarizes, concludes and provide recommendations based on the findings identified in the previous chapter. Therefore, this research work has attempted to study the practices and challenges of kaizen system at Sino-Ethiop Associates (Africa) PLC.

#### **5.1 Summary of Major Findings**

The following items are some of the findings and conclusions of the study:

Sino-Ethiop Associate (Africa) PLC is aggressively working on the integration of kaizen system which is demonstrated partly by that there is an independent office to coordinate and lead kaizen system implementation and practices in the organization together with the management.

There is a grey area on how to make the system sustainable for so long consistently and continuously.

There is conducive environment to implement Kaizen in the organization by creating a system with which general staff can have a chance to suggest on the way the company operates, which is the area where core competence of the system lies.

Regarding the waste management, the majority of respondents have doubt about it in that waste management should be carried out regularly and continuously.

Concerning impacts of Kaizen implementation, most of the respondents including the management team expressed their impression on the achievements of productivity, quality of products.

In accordance with the findings of this research, the most factors that affect implementation of kaizen are: lack of incentives to be provided to the best performers which will in turn help as exemplary for others. Different level of understanding prevails among the team members. The other is failure to recognize and reward staff members based on the respective individual worker's performance evaluation and those workers achieved above expectations should receive better reward and recognition.

Some staff members and teams are not in a position to understand the importance of documentation, as a result of which the activities and outputs generated by the team is not recorded and maintained for future reference and others interested. Changing the attitude of some staff members was challenging and unnecessary time wasted. There was sustainability problem in maintaining the system in place for long.

## **5.2 Conclusions**

The Kaizen project in Ethiopia consisted of three phases. The first phase which started in August 2009, reviewed the quality and productivity of 63 companies. After preliminary diagnosis of these factories, 30 companies were selected based on the following criteria: 1) proximity to Addis Ababa, within 100 km distance, 2) contribution to exports and/or imports, 3) scale of capital, and 4) number of employees. Then, the employees of the pilot companies were sent to Japan to undertake work-site observation and learn from the experience of the Japanese kaizen practitioner. In October, 2009-2010, by the end of the first phase of the project, from the thirty final pilot companies, only 6, 4, and 8 companies were finally chosen by Ethiopia's Kaizen Institute for having high possibility, good possibility and some possibility respectively to become kaizen model companies (Ethiopian Ministry of Trade, 2011).

Therefore, in order to understand the mechanisms needed for the transference of the Japanese Kaizen management system from Japan to Ethiopia, it is worthwhile to review the literature and identify the important variable needed for the transferability of the Japanese kaizen management techniques to other countries.

Sino Ethiop Associates (Africa) PLC has introduced the principles of kaizen into its operational processes two years ago. Since then a progressive process improvement was achieved at different levels of production stage. The company has introduced the theory after realizing that the kaizen management can bring about continuous process improvement, change in the work culture of the task force of the organization.

On the other hand some staff members have concern about the sustainability of the system in place if the management failed to work on the motivation aspect of the principle, there is a tendency to halt the process which has track record at the moment in the company. On the contrary there are few suggestions especially by the management and supervisors that the kaizen practice will remain operational and effective since the management continues to give it due attention and provide the necessary facilities including the refresher training the existing staff and basic training for the new entry staff on kaizen management and practices. The major problem turns around awareness creation and implementing consistent reward and incentive system to be based on performance on an individual and group level.

### **5.3 Recommendations**

The kaizen practice in Sino Ethiop Associates (Africa) PLC is commendable in general. However, there are also some issues which need the attention of management for the full ownership of the system by the workers and teams at various production units. To this end the company has to give due attention to the following important issues:

- Ensure availability of the necessary facilities in the production process and provide consistently and continuously as the kaizen implementation progresses in the organization.
- The most important part of resources is human resource. To secure changes of the mindset of workers is crucial towards achieving kaizen implementation sustainably.

The company should give high priority for training and motivation of staff so that the system is owned and sustainability is achieved.

- Work on the ever increasing need of training on the new development in the kaizen system and its implementation.
- Assess the material and psychological benefit needs of the staff so as to maintain the existing motivated staff so as to secure sustainability of kaizen management and practices.
- Exert more efforts on the waste management so that the work area would remain tidy and neat all the time.
- In most cases the challenges encountered by the company turn around the way of thinking of some staff members which may perceive the implementation of kaizen wrongly and separate task. Hence, the management and the kaizen unit should work hard to inculcate the idea persistently.
- Ethiopian Kaizen Institute (EKI) plays a great role in introducing the kaizen philosophy into the operational system of several manufacturing organizations but the system is not well understood by the other sectors and the public at large. Therefore EKI needs to intensify the philosophy to the general public using broadcasting organizations. The best performing workers should be recognized and the reward system should be linked with the output as well as quality of work.

Finally, further research is recommended to be conducted in this area nation-wide and the kaizen practice is to be expanded to other economic sectors than manufacturing organizations so that wider implementation of kaizen would bring about tremendous changes in the development and economic growth of the country.

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## APENDICES

### Appendix A - Questionnaires

Saint Mary's University, School of Graduate Studies

Dear Respondents,

As a student of postgraduate studies, I am undertaking a research on the "IMPLEMENTATION AND IMPACT OF KAIZEN PRINCIPLES" taking the case of Sino-Ethiopian Associate (Africa) PLC.

As your company is selected for the research, your participation on this research is fully voluntarily and would help maintain company-wide and smooth implementation of Kaizen principles.

The quality of the result of this research relies on the accuracy and reliability of the information you provided.

Hence, I kindly appreciate your invaluable time dedicated to answer the questions given below:

Provide proper instruction for filling up the questionnaire here.

#### I- Demographic Information

1. Gender:                      Female [    ]                                      Male [    ]
2. Age Group:                      < 25 [    ]                                      25-35 [    ]                      36 - 40 [    ]                      41 - 60 [    ]  
]                      > 60 [    ]

3. Educational Level: Below diploma [ ], Diploma [ ], First Degree [ ], Second degree & above [ ].

4. Years of Service with Sino-Ethiop:

<5 Years [ ], 6-10 Years [ ], 11-15 Years [ ], >15 Years [ ]

5. Work Area (Department):

Production [ ], Marketing [ ], Procurement [ ], Finance & Administration [ ]

## II. Driving Factors to Implement Kaizen

S/N	ITEM	1	2	3	4	5
1	My supervisor has adequate knowledge about Kaizen and communicate to the staff in a good manner .					
2	Kaizen provided opportunity for the staff to take part in the decision making process.					
3	All the necessary equipments are available to do my job effectively.					
4	The type of organizational structure is favorable to effectively implement Kaizen.					

## III. Using and Integrating Kaizen

5	The organization has clearly articulated the Kaizen principles.					
6	I understand that continuous improvement bring about gradual change in the way we operate as a team.					
7	Kaizen has contributed much for the overall organizational work culture improvement.					

## IV. Staff Motivation

8	The staff members in your department are motivated enough to					
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	implement Kaizen.					
9	I am actively and effectively participating in the implementation of the Kaizen philosophy.					
10	I am eager to learn a lesson from my mistakes and ready for corrective actions.					
11	Staff skill and knowledge has been increased as a result of implementing Kaizen principles.					
12	I am interested to discuss with my immediate supervisor on how to utilize Kaizen principles and improve overall productivity.					
V. Impacts Achieved						
13	Kaizen has brought about new change in work culture.					
14	Our production process has been improved as a result of Kaizen implementation.					
15	Kaizen has contributed much on the less time being used for processes.					
16	The production area is pleasant and tidy as a result of kaizen implementation.					

VI. Knowledge about Kaizen Prior to Implementation of the System

17	Your knowledge about kaizen principles prior to implementation in the company.					
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VII. Challenges

18	Your company work regularly towards avoiding wastes.					
19	The kaizen system is sustainably implemented.					

1 = Excellent,      2 = Very Good,      3 = Good      4 = Poor,      5 = Very Poor

## Appendix B - Interview Guide for Management

1. How long SAEE has integrated and implemented Kaizen practice in the operational processes of production? \_\_\_\_\_

\_\_\_\_\_

2. What impact did you observe in the first three years of implementation of Kaizen principles in the organization? \_\_\_\_\_

\_\_\_\_\_

3. What instigated SAEE to bring about Kaizen into play in the overall production processes?

4. What are the challenges did you come across while implementing Kaizen? \_\_\_\_\_

\_\_\_\_\_

5. What are the inputs obtained from Kaizen Institute towards integrating and implementing Kaizen into your operational systems? \_\_\_\_\_

\_\_\_\_\_

6. Do you think that the achievements obtained so far will be maintained and continued in your firm? \_\_\_\_\_

\_\_\_\_\_

7. If not what would you suggest to make Kaizen principles and practices remain sustainable in your firm? \_\_\_\_\_

\_\_\_\_\_